

# Corporate Governance Mechanisms and Financial Performance of Listed Oil and Gas Firms in Nigeria: An Empirical Assessment

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## ABSTRACT

Financial performance indicates how well an Oil and Gas firms have judiciously utilized the available limited resources in all its operations. In spite of this, evidence have shown that the performance of the Oil and Gas firms in Nigeria have been sliding due to poor Corporate Governance. Several researches and debates on whether Corporate Governance dimensions such as board composition, board size, board gender diversity, audit committee have any influence on the performance of the firms have been carried out but these studies appear not to focus on the effect of Corporate Governance dimensions on financial performance of listed Oil and Gas firms. Hence, this study examined the effect of Corporate Governance dimensions on the financial performance of listed Oil and Gas firms in Nigeria for ten years, 2009 to 2018. The study is underpinned by the stakeholder theory. The study adopted a content analytical approach to obtain data through the corporate website of the respective oil and gas firms and website of the Nigerian Stock Exchange. A total of 12 Oil and Gas firms were selected for the study cutting across three listing classifications of the Oil and Gas firms in Nigeria. The result of the study showed that Corporate Governance had no significant effect on return on assets ( $Adj. R^2 = 0.009$ ;  $F = 0.505$ ;  $p > 0.05$ ). The result suggests that listed Oil and Gas companies in Nigeria should continue to maintain large board size provided the cost of doing so is not outrageous and ensure that the board always has a mix of persons with requisite skills, knowledge and understanding of business management and the operations of the company. The study also suggest that Oil and Gas firms should anchor on Corporate Governance dimensions for higher and better performance.

*Keywords: Audit committee, Board composition, Board gender diversity, Board size, Corporate Governance, Return on Asset.*

## 1. INTRODUCTION

The Oil and Gas sector worldwide constitutes a major component of the world's economic development as the performance of the Oil and Gas sector affect the economy of the oil producing countries of the world. Many Oil and Gas producing nations rely on the performance of the Oil and Gas sector as the main provider of financial resources and despite the recent search and development of non-fossil energy sources, the finances of non-oil producing countries as the world are also impacted by the cost of meeting a major part of their energy needs through the Oil and Gas sector. Its performance impacts the social and economic development of individuals and businesses as its losses and volatility create uncertainty and decline in economic indices of oil producing countries in particular and the world in

general. However, the Oil and Gas sector is confronted with performance challenges which has impacted on their profitability, earnings per share, return on assets (ROA) and return on equity (ROE). Nigeria is not left out of this phenomenon as similar challenges have been observed in the financial performance of Oil and Gas firms listed on the Nigerian Stock Exchange (NSE). According to Okonkwo, Adigwe, Ezu, and Oko (2020), the financial performance of Oil and Gas firms listed on the NSE have been sliding in relation to their ROA and ROE. In a similar vein, Bashiru and Bukar [1]; Oyakhire (2019) showed that the financial performance of quoted Oil and Gas firms in Nigeria has been affected by capital structure in terms of their ROA and ROE. One of the critical factors attributed to the problem is declining Corporate Governance structure [2]; (Oyakhire, 2019). As reported in the NSE Annual

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Fact Book 2018, there was a cumulative loss after taxation of the listed Oil and Gas firms on the NSE of N83.3billion in 2016. This was reversed in 2017 as the cumulative profit after tax of N85.4billion was achieved in the industry. This however declined to N34.7 billion in 2018. Several studies have affirmed the role of Corporate Governance in the financial performance of Oil and Gas firms in the globe (Davanto & Nurfadilah, 2018; [3,4]; Yusuf, Gunasekaram, Musa, and El-Berishy, 2016). Vätavu, et al. (2018) demonstrate through their study that declining financial performance of Oil and Gas companies in the UK was attributed to the need to be environmentally conscious in production methods, reducing costs of pollution and the need to improve on the Corporate Governance structure. In Africa, poor financial performance of listed Oil and Gas firms was premised on the challenges of Corporate Governance issues in the industry. Numerous incidences of business collapse and unexpected failure of the so-called industry giants in the developing economies were traced majorly to Corporate Governance issues (Goel, 2018; Kamau, Evans, Machuki, & Pokhariyal, 2018; [5]; Zhao, 2016). Specifically, the financial devastation of many corporations such as those of USA, South East Asia and Europe have been premised on the failure of Corporate Governance [6]; high profile scandals throughout the world such as Enron and World.Com in the United States, Transmile, Megan Media and Nasioncom in Malaysia were directly linked to Corporate Governance failures (Abdul-Qadir & Kwambo, 2012; Hussin & Othman 2012). However, Bebchuk, Cohen and Ferrell (2004) postulates that “a well governed firm have higher firm performance”; Gompers, Ishii and Metrick (2003) validate through their study that firms with poor corporate governance quality enjoy lower stock returns than those with a higher level of governance quality.

The general proposition which has re-occurred more often in the literature is that the governance structure and control mechanisms of corporate entity significantly affect corporations’ ability to respond positively to both internal and external factors and thus have a bearing on performance [7-9]. Levitt [10] have argued that good Corporate Governance by boards of directors is recognized to influence the quality of financial reporting, which in turn has an important impact on investor confidence. In the Oil and Gas sector in Nigeria, some studies have focused on the effect of capital structure on financial performance (Okonkwo, Adigwe, Ezu, & Oko,

2020; Oyakhire, 2019), while the effect of accounting practices of Oil and Gas firms on their financial performance was observed by Obara and Nangih (2017). However, these studies did not focus on the effect of Corporate Governance mechanisms on financial performance of listed Oil and Gas firms, leading to the main gap that is intended to be filled by this study. With respect to the regulatory standards, the Central Bank of Nigeria code of Corporate Governance for banks and other financial institutions in Nigeria (CBN 2003) favours the presence of more independent non-executive directors in the board. Similarly, the SEC (2011) code of Corporate Governance for public companies in Nigeria and the 2018 code of Corporate Governance for public companies in Nigeria provide that the board of directors should be made up of a mix of both executive and non-executive directors and the non-executive directors should be in majority. This study will therefore fill a gap in the literature by examining the effect of Corporate Governance dimensions (board composition, board size, board gender diversity, audit committee) on financial performance measured by return on assets of listed Oil and Gas firms in Nigeria. It also expands the body of literature by providing information on improving the performance of Oil and Gas firms in Nigeria through improvement in Corporate Governance practices. This significance is to the management and board of listed Oil and Gas firms; to the government, industry regulators and policy makers.

## **2. LITERATURE REVIEW**

### **2.1 Corporate Governance**

Corporate Governance has no single generally accepted definition as definitions are often a result of the cultural situations and framework of each of the countries under consideration resulting in noticeable differences in the codes of Corporate Governance of various countries (Nassreddine, 2016). It is also because Corporate Governance is much broader than just corporate management. Corporate Governance is a system of structuring, operating and controlling a company with a view to achieving long-term strategic goals for all stakeholders through compliance with the legal and regulatory requirements and meeting environmental and community needs (Krishnan & Amin, 2017). Mansur and Tangl (2018) defined Corporate Governance as the relationship of the enterprise to the shareholders in the narrow sense and the relationship of the enterprise to society as a

whole in the wider sense. It is about how an organisation deals with its various stakeholders through established policies, structures and culture to achieve accountability and performance outcomes. Corporate Governance provides the structure through which the company's objectives are set and performance monitored. It also ensures that rules and procedures for making decisions in the organisation are clear (Feleaga, Feleaga, Dragomir, & Bigioi, 2011).

As a way of going beyond legality and focus on ethics as well as achieving the desires of the stakeholders, Corporate Governance definitions has moved from the focus on only creating value for shareholders into the realm of responsibility. In this wise, Nworji, Olagunju, and Adeyanju (2011) defines Corporate Governance as the concept that relates to the way and manner in which financial resources available to an organisation are judiciously used to achieve the overall corporate objectives of the organisation. In a similar manner, Corporate Governance has been defined as a combination of policies, laws and instructions influencing the way a firm is managed and controlled, consisting of a framework of rules to grant transparency and fairness in the relationship between the firms and its shareholders and to distribute rewards and responsibilities among internal and external stakeholders in a way that avoid conflict of interests (Goktan, Kieschnick, & Moussawi, 2018).

Embracing principles of good Corporate Governance confers on companies, certain advantages. Such advantages include improved reputation as adherence to good Corporate Governance practices can boost the company's reputation since more stakeholders will be willing to identify with such corporation. Corporate Governance upholds moral uprightness among organisation workforce by making them to safeguard the resources and entitlements of all stakeholders (Kansal, Joshi, Babu, & Sharma, 2018). Another advantage of Corporate Governance is that it enhances compliance with established regulatory codes while it decreases conflicts and fraud and reduces the incidence of misleading financial statements. In essence, Corporate Governance enhances transparency, which allows stakeholders to feel more confident that the company has little or nothing to hide (Kumar & Zattoni, 2016).

It can, therefore, be said that key aspects of Corporate Governance include transparency of

both corporate structures and operations, accountability of the company managers and elected boards to the shareholders, and corporate responsibility towards the entire stakeholders. Corporate Governance improves the decision-making process at the top management level, ensures better control environments and enhances the corporate image of the organisation. This leads to improved investors' confidence, increases and sustains the share value and confers more value for everyone. In order to make these principles very effective, certain mechanisms have been designed by experts and is shaped by its political, economic and social history and also by its legal framework. Some of these mechanisms include board composition, board size, board gender diversity, audit committee (Shleifer & Vishnys, 1997) which were the thrust of this study. Adekoya (2012) regards these Corporate Governance mechanism as the processes and systems by which a country's company laws and corporate governance codes are enforced.

## **2.2 Financial Performance**

The concept of financial performance has been an issue of significant interest to management researchers. Generally, performance is understood to include best management practices in order to generate economic profits. It is viewed as the accomplishment of a specific task or duty measured against established benchmark marks as an indicator of a firm's degree of success. Firm's financial performance facilitates the adequate measurement of an organisation's financial health over a certain period of time (Kariuki & Jagongo, 2013). It is the financial conditions of a company over a certain period of time and it shows the company's ability to manage and control its resources. Financial performance is measured from financial statements using performance metrics such as the cash flows, balance sheets, profit and loss statement and other information disclosures that can enable an analysis of the financial state of the firm.

Considering the data available for this study, annual financial reports of the listed Oil and Gas firms on the Nigerian Stock Exchange, this study measures financial performance by the Return on Assets (ROA) which is the net income of a company divided by its average total assets. According to Haniffa and Hudaib (2006) and Romano, Ferretti, and Rigolini (2012), ROA shows how proficient a company's assets are in generating profits. It indicates the effectiveness of the company's assets in increasing

shareholders' economic interests. Similarly, it is used to assess the effectiveness of the firm's employed capital thereby providing a basis for investors to evaluate the earnings so generated by the firm from its investment in capital assets (Epps & Cereola, 2008; Ermina & Mariamp, 2010). Also, ROA shows the efficiency of management in using its assets to generate earnings (Adekunle & Aghedo, 2014; Bashaer & Singh 2016). Therefore, it allows the various agencies in charge of monitoring and regulation as well as the stakeholders and users of a firm's financials assess how well Corporate Governance mechanism has impacted on the efficient management of the firm (Adesanmi, Sanyaolu, Ogunleye, & Ngene, 2018; Chagbadari, 2011). ROA is calculated by dividing a company's annual earnings by its average total assets of a financial year and it is displayed as a percentage. It is measured thus:

$$\text{ROA} = \frac{\text{Annual Net Income}}{\text{Average Total Assets}}$$

In using ROA as a comparative measure, it is best to compare it against a company's previous ROA numbers or against a similar company's ROA.

### 2.3 Empirical Review of Literature

The link of Corporate Governance with firm performance is a debated issue in the governance literature (Anderson, Mansi, & Reeb, 2003). The majority of empirical studies conducted (using board size, board independence, CEO duality, and number of board committees) in an effort to understand the impact of board features on firm performance are largely normative and prescriptive (Fama & Jensen, 1983). Also, the results from the studies are mixed. In their study on sugar mills, the second largest agro-industry in Pakistan, Latif *et al.*, 2013 found a significantly positive impact on ROA of the firms using board composition as proxy of Corporate Governance. The findings of Abdulazeez, Ndibe, and Mercy (2016) on the listed deposit money banks in Nigeria corroborated their findings. Similarly, Labelle, Francouer and Lakhali (2015) reported a positive

effect on ROA using gender diversity as Corporate Governance dimension from a 17 multi-country study involving 1,691 firm-year observations. Such positive finding was also reported by Isidro and Sobral (2015) in their study on the effect of gender diversity on ROA of firms in Europe and also by Chong, Ting, and Cheng (2016) in their study on Corporate Governance effect on performance of REITs in Singapore as well as in the study using quantile regression analysis by Dang and Nguyen (2016). In a study of upstream Oil and Gas companies in Nigeria, Obara and Nangih (2017) reported a positive impact on ROA using the accounting practices of firms. Moreover, in a study of all listed Oil and Gas firms in Nigeria, using their capital structure, Oyakhire (2019); Okonkwo, et al. (2020) corroborated this view.

However, a negative effect on ROA by Corporate Governance dimensions was found from studies in Nigeria using Oil and Gas firms and multinational firms by Akinleye, Olarewaju, and Fajuyagbe (2019) and Eke, Akpanuko, and Umoffong (2019). Also, Shehata, Salhin, and El-Helaly (2017) found a negative association between board age diversity as Corporate Governance dimensions and firm performance measured by ROA from their study using SMEs in United Kingdom. Haq (2017) also observed a similar trend from the financial performance of the Oil and Gas firms in Oman while Davanto and Nurfadilah (2018) made a similar observation concerning the financial performance of Oil and Gas industry in Indonesia in terms of the ROA. In the light of variations in the findings of different scholars on the relationship between Corporate Governance and return on asset of firms, this study hypothesized that:

**H<sub>0</sub>:** Corporate Governance dimensions have no significant effect on return on assets of listed Oil and Gas firms in Nigeria.

Table 1 further presents some summary of empirical results from extant literature on Corporate Governance and financial performance of firms from various sectors and industries in Nigeria.

**Table 1. Summary table of some findings**

Article	Author(s)/Year	Title	Findings
1	Abdulazeez, D. A., Ndibe, L., & Mercy, A. M.	Corporate Governance and financial performance of listed	It was found out that Corporate Governance (larger board size) contributes positively and significantly to

Article	Author(s)/Year	Title	Findings
	(2016).	deposit money banks in Nigeria.	the financial performance of deposit money banks in Nigeria.
2	Adesanmi, A. D., Sanyaolu, O. A., Isiaka, M. A., & Fadipe, O. A. (2019).	Empirical analysis of board diversity and the financial performance of deposit money banks in Nigeria.	The study found a positive association between gender diversity and financial performance of banks. Also, gender diversity in combination with independence of board increases the financial performance of banks.
3	Akinleye, G. T., Olarewaju, O. M., & Fajuyagbe, B. S. (2019).	Corporate Governance and financial performance: An empirical analysis of selected multinational firms in Nigeria.	The study found that Corporate Governance variables (board size and board activism) exerted significant negative influence on financial performance (return on asset) and insignificant negative impact on financial performance (firm's growth rate). Committee activism had insignificant influence on both return on assets and firm's growth rate.
4	Akintoye, S. I., & Iyaniwura, S. K. (2017).	The impact of Corporate Governance regulation in the Nigerian banking sector.	The study revealed that Nigeria's Corporate Governance regulation is weak due to its poor institutional framework and weak system of governance. This has led to adverse effects on the banking sector.
5	Garuba, A. O., & Otomero, G. O. (2015).	Corporate Governance in the Nigerian banking industry: Issues and challenges.	The study reveals that banking crisis is traceable to poor Corporate Governance and laxity especially in the credit administration process of banks.
6	Hennchen, E. (2015).	Royal Dutch Shell in Nigeria: Where do responsibilities end?	It was found that multi-national corporations have to take on public responsibilities that goes beyond the traditional CSR practices so that the business environment will respect their economic and profit mandate. "It's beyond doing CSR; it's about being seen to be doing CSR".
7	Okere, W., & Ibadunni, O. (2019).	Corporate Governance and investment decisions in deposit money banks in Nigeria.	The results revealed that there exists a positive and significant relationship between Corporate Governance (board size, board independence and audit committee independence) and investment decisions of shareholders of deposit money banks in Nigeria.
8	Okoro, B. C. (2015).	Corporate Governance in the Nigerian banking sector: An empirical analysis.	The study found that adherence to Corporate Governance significantly attracts investors to the banking industry and improves the sector's financial performance as measured by profitability and return on investment.
9	Onakoya, A. B., Ofoegbu, D. I., & Fasanya, I. O. (2012).	Corporate Governance and bank performance: A pooled study of selected banks in Nigeria.	It was found that Corporate Governance practices of the systemically important banks in Nigeria needs to be improved upon in order to enhance their performance.
10	Owolabi, S. A., & Sanyaolu, O. A. (2019).	Corporate Governance and business survival: A study of selected food	The study found no significant relationship between Corporate Governance variables (board composition, board meeting, board

Article	Author(s)/Year	Title	Findings
		and beverages firms in Nigeria.	diversity) and business survival. It also showed that each of the business survival indicators (net profit before tax, corporate social responsibility, training allowance) related with each element of Corporate Governance in a unique manner.

Source: Compiled by the Authors

## 2.4 Theoretical Framework

Corporate governance is the relationship among shareholders, board of directors and the top management in determining the direction and performance of the corporation. It includes the relationship among the many players involved (the stakeholders) and the goals for which the corporation is governed (Kim & Rasiah, 2010). According to Imam and Malik (2007), the Corporate Governance theoretical framework is the widest control mechanism of corporate factors to support the efficient use of corporate resources. The challenge of Corporate Governance could help to align the interests of individuals, corporations and society through a fundamental ethical basis and it fulfils the long-term strategic goal of the owners. It will certainly not be the same for all organizations, but will take into account the expectations of all the key stakeholders (Imam & Malik, 2007). So, maintaining proper compliance with all the applicable legal and regulatory requirements under which the company is carrying out its activities is also achieved by good practice of Corporate Governance mechanisms. There are a number of theoretical perspectives which are used in explaining the impact of Corporate Governance mechanisms on firms' financial performance, but this study is anchored on stakeholder theory which proposes that companies have a social responsibility that requires them to consider the interest of all parties affected by their actions. The original proponent of the stakeholder theory suggested a re-structuring of the theoretical perspectives that extends beyond the owner-manager-employee position and recognizes the numerous interest groups. Freeman, Wicks and Parmar (2004), suggested that: "If organizations want to be effective, they will pay attention to all those relationships that can affect or be affected by the achievement of the organization's purpose". The stakeholder theory was adopted to fill the observed gap created by omission found in the agency theory which identifies shareholders as the only interest group of a corporate entity. Within the framework of the stakeholder theory, the problem of agency has been widened to

include multiple principals (Sanda, Garba & Mikailu 2011). The stakeholder theory attempts to address the questions of which group of stakeholders deserve the attention of management.

Furthermore, the stakeholder theory proffers a better explanation of the role of Corporate Governance than the agency and stewardship theories by highlighting the different constituents of a firm (Cole, Daniel, & Naveen, 2008). Some scholars support it for its simplicity and logical application (Ribeiro, Wagner, Alves, & Raposo, 2011) as they affirm that maximising the value of a firm's stakeholders will also maximise the value of the whole company. Although attempts have been made to correct some of its criticisms through the proposition of the enlightened stakeholder theory, Sanda, Mikailu, and Garba (2005) opine that the problems relating to empirical testing of the extensions in the enlightened stakeholder theory have limited its relevance.

Donaldson and Preston (1995) criticised the stakeholder theory for being a muddling of theoretical bases and objectives while Hay (1996) criticised it as a vague and cryptic concept that is open to a wide variety of divergent political interpretations. It is also considered as a slippery concept that means different things to different people to suit their arguments. Other critics suggests that the stakeholder theory is merely a moral argument establishing a justification for managerial attention to stakeholders rather than maximising shareholder value. Another criticism is that even within the stakeholder theory, the interests of individual groups compete with each other's interests, hence decision making becomes difficult (Jensen, 2002).

## 3. METHODOLOGY

This study employed *ex-post facto* research design by relying on secondary data which involve collection of data from the existing sources over a period of time. The *ex-post facto* research design for this study was premised on

empirical review of research works that have utilized this method in similar studies which sought to investigate trends over specified time frames (Abdulazeez, Ndibe, & Mercy, 2016; Onakoya, Ofoegbu, & Fasanya, 2012; Owolabi & Sanyaolu, 2019). The population of this study comprised twelve listed Oil and Gas firms in Nigeria as at 31 May 2020. The population of the study covers all the three classifications of the Oil and Gas firms in Nigeria by the Nigerian Stock Exchange (NSE). Table 2 presents the population of the study.

This study employed total enumeration to select all the listed Oil and Gas firms because they are few and due to the ability to generate the required data necessary for the study. The study focused on panel data which covered 2009 to 2018, regarding Corporate Governance and financial performance. This period of ten years is considered as sufficient as posited by Abdulazeez, Ndibe, and Mercy (2016) in which similar study was done to examine Corporate

Governance and financial performance of listed deposit money banks in Nigeria for a period of seven years. The study considered four mechanisms as proxy for Corporate Governance and ROA as the proxy for financial performance. The expected number of observations for this study is calculated by multiplying the number of listed Oil and Gas firms by the number of years investigated. Hence, it is  $(12 \times 10) = 120$  expected observations.

The study used secondary data extracted from the annual reports and audited financial statements of the listed Oil and Gas companies for years 2009 to 2018. The secondary data were adjudged most relevant and appropriate as all the measures of the variables in the study were extracted from the annual reports and accounts of the listed Oil and Gas firms while that of ROA was computed based on the formula. The secondary data used for this study were sourced from the published annual reports of the listed Oil and Gas firms and cross-checked with the

**Table 2. Listed oil and gas firms on the NSE as at 31 May, 2020**

S/N	Firms	NSE trading classification	Year of listing on the NSE
1	11 Plc.	Main Board	1978
2	Anino International Plc.	Alternative Securities Market	1992
3	Arдова Plc.	Main Board	1978
4	Capital Oil Plc.	Alternative Securities Market	1989
5	Conoil Plc.	Main Board	1991
6	Eterna Plc.	Main Board	1998
7	Japaul Oil and Maritime Services Plc.	Main Board	2007
8	MRS Oil Nigeria Plc.	Main Board	1990
9	Oando Plc.	Main Board	1991
10	Rak Unity Petroleum Company Plc.	Alternative Securities Market	1987
11	Seplat Petroleum Development Company Plc.	Premium Board	2013
12	Total Nigeria Plc.	Main Board	1979

*Source: Researchers' study (2021)*

Annual Fact Book of the Nigeria Stock Exchange. The extracts from the annual reports and accounts of the listed Oil and Gas firms used in this study are validated by the audit process that the data have been subjected to and were considered appropriate for the study.

The main variables are Corporate Governance as independent variable and financial performance as dependent variable. The sub-variables for the independent variable are board composition which is analyzed in terms of the ratio of executive or full-time directors to non-executive directors in each firm; board size which refers to the number of board members of each firm; board gender diversity which is the number

of female directors in relation to the total number of directors in the firm and audit committee measured by the number of external directors as a proportion of the total number of audit committee members. For the dependent variable, return on assets (ROA) was utilized. The statistical techniques which include panel regression analysis is adapted to examine the nature of relationship between the dependent and the independent variables in this study. The model is stated as:

$$ROA_t = \alpha_1 + \beta_1 BC_t + \beta_2 BS_t + \beta_3 BGD_t + \beta_4 AC_t + \mu_t$$

$ROA_t$  is the return on assets of the Oil and Gas firms in time  $t$

$BC_t$  is the board composition of the Oil and Gas firms in time  $t$

$BS_t$  is the board size of the Oil and Gas firms in time  $t$

$BGD_t$  is the board gender diversity of the Oil and Gas firms in time  $t$

$AC_t$  is the audit committee of the Oil and Gas firms in time  $t$

$\alpha_1$  is the intercept for the models

$\beta_{1-4}$  are the coefficients of the explanatory variables

$\mu_t$  is the error term of the model

## 4. RESULTS AND DISCUSSION

### 4.1 Results

The descriptive statistics of the study variables, covering the period of ten years from 2009 to 2018, is presented in Table 3. Table 4 shows the correlation matrix while results of panel linear regression is in Table 5. The analyses were done using EViews (version 10).

Table 3 presents the minimum, maximum, mean and standard deviation of dependent and independent variables. The mean value of board composition (BC) is 0.633521 with standard deviation of 0.158249. The difference between the mean and standard deviation of the data set suggests that there is greater amount of disparity in the data set. Overall, the results show that the listed oil and gas firms have high ratio of outside directors to inside directors on the boards. Board size (BS) has a mean value of 7.761062 and a standard deviation value of 3.246631. The difference between the mean and standard deviation of the data set suggests that there is greater amount of disparity in the data set. The total number of board members suggest that on average, there are 8 directors that serve on the boards. The minimum number of directors on the boards is 3 while the maximum number is 14. The mean value of board gender diversity (BGD) for the sampled companies is 0.157914 while the standard deviation is 0.192625. This shows that most boards are dominated by male directors since, on average, the proportion of female directors as shown by Table 3 was 16 percent with no minimum and maximum of 66 percent. The mean value of audit committee (AC) is 0.415044, and the standard deviation of AC

being 0.176888 implies low across time, as shown by the standard deviation. The minimum value is 0.000000, while the maximum value is 0.500000. The mean value of 0.415044 is within the mandatory ratio 0.5 (FRCN, 2018). This suggests that, on average, all the listed Oil and Gas firms selected for the study have regulated audit committee number. Finally, the average mean of ROA was -0.006723 percent, an indication of a negative ROA meaning that most listed Oil and Gas firms are not able to efficiently make substantial profits from their assets regardless of their size. This also indicates a high variation of performance among the companies as depicted by the value of standard deviation (15%) which is higher than the mean value. It shows a negative financial performance for the listed Oil and Gas firms. However, the minimum value for ROA -0.751768 gives impression to the investors that the management of the respective Oil and Gas firms is inefficient.

Table 4 shows the correlation values between the dependent and independent variables. As shown on Table 4, board size, board gender diversity, and board composition have a positive correlation with return on asset, while audit committee has a negative association with return on asset. Moreover, the variance inflation factor (VIF), which is a measure of multicollinearity, suggests that all the independent variables are not related with each other because they are less than 10 in absolute values. As a result, the models for the analyses are suitable and reliable since none of the variables has the tendency to cause problems of multicollinearity.

In examining the model, based on the regression result in Table 5, the results show a probability of Hausman test of 0.0000 which is less than the 5% level of significance and therefore indicated the suitability of the random effect estimation technique. The results show that board composition ( $\beta = 0.122$ ,  $t = 0.885$ ,  $p > 0.05$ ), board size ( $\beta = 0.004$ ,  $t = 0.007$ ,  $p > 0.05$ ), and board gender diversity ( $\beta = 0.100$ ,  $t = 0.136$ ,  $p > 0.05$ ) have positive and insignificant effect on the return on assets of listed Oil and Gas firms in Nigeria while audit committee ( $\beta = -0.220$ ,  $t = 0.138$ ,  $p > 0.05$ ) have a negative and insignificant effect on the return on assets of listed Oil and Gas firms in Nigeria at 5% significance level. This implies that all the Corporate Governance dimensions (board composition, board size, board gender diversity and audit committee) are not significant predictors of return assets of listed Oil and Gas firms in Nigeria.

Concerning the magnitude of the estimated parameters for the coefficients of the regression analysis, an upsurge in board composition induces a 0.122 unit of improvement in the return on assets of listed Oil and Gas firms in Nigeria. This could mean that the more the number of independent non-executive directors relative to the total number of directors, the more likely it is to improve return on assets. Also, the positive coefficient of board size implies that for every increase in board size by one director beyond the optimal level, the return on assets of listed Oil and Gas firms in Nigeria will increase by 0.004%. Moreover, the positive coefficient of board gender diversity implies that for every increase in the proportion of women directors on the board beyond the optimal level by one, the return on assets of listed Oil and Gas firms in Nigeria will increase by 0.100%. This implies that higher proportion of female directors is associated with higher level of financial performance as measured by ROA. Also, including women on boards bring more resources to the firm, such as improved decision-making and external linkages. Furthermore, the result shows that every increase in audit committee will lead to a -0.220 unit of reduction in the return on assets of listed Oil and Gas firms in Nigeria. This implies that an

upsurge in audit committee beyond the optimal level gives room for ineffectiveness of the oversight function of the committee in ensuring quality financial reporting.

The Adjusted R<sup>2</sup> which measure the proportion of the changes in return on asset of the listed Oil and Gas firms due to the changes in board composition, board size, board gender diversity and audit committee explains that about 0.9% changes in return on asset of the listed Oil and Gas firms in Nigeria, while the remaining 91.1%% were due to other factors explaining changes in return on assets of listed Oil and Gas firms in Nigeria but where not captured in the model. The *F*-Test of 0.505 with a probability of 0.283 is statistically in significant at 5% significance level. This implies that all the four Corporate Governance dimensions (board composition, board size, board gender diversity and audit committee) have insignificant effect on the return on assets of listed Oil and Gas firms in Nigeria. This is confirmed by the EGLS (RE) regression results on Table 5. Therefore, the null hypothesis H<sub>0</sub> which states that Corporate Governance dimensions have no significant effect on return on assets of listed Oil and Gas firms in Nigeria was not rejected.

**Table 3. Descriptive statistics of corporate governance dimensions and financial performance**

	BC	BS	BGD	AC	ROA
Mean	0.633521	7.761062	0.157914	0.415044	-0.006723
Median	0.666667	8.000000	0.100000	0.500000	0.026786
Maximum	0.909091	14.000000	0.666667	0.500000	0.228355
Minimum	0.272727	3.000000	0.000000	0.000000	-0.751768
Standard Deviation	0.158249	3.246631	0.192625	0.176888	0.153785
Skewness	-0.568429	0.078299	1.576871	-1.746028	-2.937065
Kurtosis	2.398701	1.821351	4.697043	4.256286	12.90986
Observations	113	113	113	113	113

Source: Researchers' computations, 2021

**Table 4. Correlation matrix of corporate governance dimensions and financial performance**

Variables	BS	BC	BGD	AC	ROA	VIF
BS	1.000					1.283
BC	0.371**	1.000				1.374
BGD	-0.306**	-0.209**	1.000			1.268
AC	0.589**	0.587**	-0.478**	1.000		1.382
ROA	0.026**	0.107**	0.121**	-0.067*	1.000	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

Source: Researcher's study, 2021

**Table 5. Regression for model**

**Dependent Variable: ROA**

Variables	Pooled OLS	Fixed effects	Random effects
Coefficients-BS	0.00464	-0.000379	0.004893

Standard Error	0.005505	0.010718	0.007811
T-Test	0.842829	-0.035348	0.626395
Prob. Value	0.4012	0.9719	0.5324
Coefficients-BC	0.203774	0.009263	0.122587
Standard Error	0.113284	0.17129	0.138487
T-Test	1.798783	0.054077	0.885188
Prob. Value	0.0748	0.957	0.378
Coefficients-BGD	0.079078	0.31005	0.100035
Standard Error	0.085748	0.227401	0.136935
T-Test	0.922218	1.363454	0.73053
Prob. Value	0.3585	0.1759	0.4666
Coefficients-AC	-0.175004	-0.269935	-0.2209
Standard Error	0.125563	0.153005	0.138939
T-Test	-1.393754	-1.764227	-1.589902
Prob. Value	0.1663	0.0808	0.1148
Adjusted R <sup>2</sup>	0.015592	0.258539	0.009791
F	1.443483(0.224646)	3.603543(0.000059)	1.276851(0.283610)
Hausman Test			2.188283(0.7012)
Bresuch-Pagan RE Test			26.31(0.0000)
Observations	113	113	113

Source: Researchers' study, 2021

## 4.2 Discussion

The finding indicated that Corporate Governance dimensions have no significant effect on return on assets of listed Oil and Gas firms in Nigeria. The finding of this study is consistent with those of Akinleye, Olarewaju, and Fajuyagbe (2019); Eke, Akpanuko, and Umoffong (2019); and Shehata, Salhin, and El-Helaly (2017). Empirically, a negative effect on ROA by Corporate Governance dimensions was found from studies in Nigeria using Oil and Gas firms and multinational firms by Akinleye, Olarewaju, and Fajuyagbe (2019) and Eke, Akpanuko, and Umoffong (2019). Also, Shehata, Salhin, and El-Helaly (2017) found a negative association between board age diversity as Corporate Governance dimensions and firm performance measured by ROA from their study using SMEs in United Kingdom. Haq (2017) also observed a similar trend from the financial performance of the Oil and Gas firms in Oman while Davanto and Nurfadilah (2018) made a similar observation concerning the financial performance of Oil and Gas industry in Indonesia in terms of the ROA. In contrast, the finding of this study did not align with most findings on the influence of board composition, board size, board gender diversity and audit committee on return on assets of firms. However, the effect of various Corporate Governance dimensions such as board size, board composition and board diversity on ROA have been majorly positive from studies within Nigeria and in the international context from studies across different industries and business sectors. The findings of Abdulazeez, Ndibe, and Mercy (2016), and Labelle, Francouer and

Lakhal (2015) reported a positive effect on ROA using gender diversity as Corporate Governance dimension from a 17 multi-country study involving 1,691 firm-year observations. Such positive finding was also reported by Isidro and Sobral (2015) in their study on the effect of gender diversity on ROA of firms in Europe and also by Chong, Ting, and Cheng (2016) in their study on Corporate Governance effect on performance of REITs in Singapore as well as in the study using quantile regression analysis by Dang and Nguyen (2016). In a study of upstream Oil and Gas companies in Nigeria, Obara and Nangih (2017) reported a positive impact on ROA using the accounting practices of firms. Moreover, in a study of all listed Oil and Gas firms in Nigeria, using their capital structure, Oyakhire (2019); Okonkwo, Adigwe, Ezu, and Oko (2020) corroborated this view. The results of this study do not support the agency theory of corporate governance, which posits that the performance of organizations depends on the effective fulfillment of roles by the board of directors (BODs) (Jacob, 2011). According to agency theory, BODs are responsible for controlling opportunistic behaviors of managers, making them the primary internal control system aligned with the interests of shareholders and managers (Jensen, 1993). However, the findings of this study contradict these assumptions in the context of the Nigerian oil and gas sector. The study reveals that corporate governance factors such as board composition, board size, board gender diversity, and audit committee had positive and insignificant influence on the financial performance of oil and gas companies in Nigeria, specifically in terms of return on

assets (ROA). This finding contradicts earlier studies conducted in different sectors, which found a strong positive and significant correlation between these corporate governance factors and organizational performance.

## 5. CONCLUSION AND RECOMMENDATIONS

The study assesses the effects of corporate governance dimensions: board composition, board size, board gender diversity, audit committee on financial performance (return on assets) of listed Oil and Gas firms in Nigeria using Oil and Gas companies. Descriptive statistics, correlation and panel linear regression techniques were used as analytical tools in the study. The findings include that the listed oil and gas firms have high ratio of outside directors to inside directors on the board. Also, there are 8 directors that serve on the board. The finding of board gender diversity for the sampled companies showed that most boards are dominated by male directors because the proportion of female directors was 16 percent with no minimum and maximum of 66 percent. In addition, all the listed Oil and Gas firms selected for the study have regulated audit committee number. Therefore, it is concluded that, Corporate Governance dimensions (board composition, board size, board gender diversity and audit committee) are not significant determinants of the changes in return on assets of listed Oil and Gas firms in Nigeria. Based on the research findings, the study recommended that management of quoted oil and gas companies in Nigeria should continually appraise their Corporate Governance system with a view to determine whether the system is functioning as expected so that corrective actions can be taken to address any deficiency in the system. Such appraisal should focus on the various actors in Corporate Governance within the company such as the Board, Audit Committee, External Auditors, Executive Management as well as the Internal Auditor. This appraisal should be done annually.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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